



# 2019-20 ANNUAL REPORT HIGHLIGHTS

Oregon Sea Grant generated

**\$31.1 MILLION**

in direct and indirect economic benefits

OSG engaged over

**149,000 PEOPLE**

in informal educational opportunities

OSG staff and trainees reached

**20,850**

preschool through 12th grade students

Volunteers at the OSG-run public wing of the Hatfield Marine Science Center and citizen scientists contributed

**9,280 HOURS**

OSG supported the creation of

**68**

products, technologies, educational materials and models

**17** OSG-supported students who graduated between February 2017 and January 2020 pursued advanced degrees or got positions related to their degrees

**27** students who were funded by OSG earned bachelor's or graduate degrees

*(data are from February 2019-January 2020)*

[seagrants.oregonstate.edu](http://seagrants.oregonstate.edu)

Supporting thriving coastal communities and ecosystems in Oregon

## TOURS CONNECT CONSUMERS WITH FISHERMEN, SEAFOOD MARKETS



Through its [Shop at the Dock tours](#), Oregon Sea Grant (OSG) taught consumers about commercial fishing and how to buy seafood on docks and in markets. In 2019, OSG offered 20 tours to about 250 people in Newport and 12 tours to nearly 150 people in Garibaldi. Fishermen and businesses sold about \$12,400 in seafood to shoppers on the tours.

## VITAMIN C INCREASES GROWTH OF CALIFORNIA HALIBUT



Supported by OSG, researchers interested in increasing aquaculture production used a feeding technique that delivers water-soluble nutrients to hatchery-raised fish larvae to boost growth and reduce mortality. Researchers packaged Vitamin C into microscopic liposomes made from soy and then fed the biodegradable capsules to tiny rotifers to enhance their nutritional value. The enriched rotifers were then fed to California halibut larvae. The fish gained more weight with higher levels of Vitamin C. Other cultured fish may benefit from this nutrient delivery system.

## INVASIVE SPECIES AWARENESS CAMPAIGN INSPIRES STUDENT ACTION



As part of its [Don't Pack a Pest campaign for academic travelers](#), OSG conducted focus groups with nearly 80 international and study abroad students from Oregon, Washington, Ohio and Minnesota in 2019 to gauge their awareness of how international travel can contribute to the spread of invasive pests. Through the focus groups and over 900 surveys, OSG has learned that students are generally not aware of regulations and risks regarding transporting invasive species in their luggage. With OSG's support, international students at Green River College in Washington formed a club that has conveyed the Don't Pack a Pest message to about 650 students and has had representatives from Customs and Border Protection and the U.S. Animal and Plant Health Inspection Service speak at its events. Students from other schools have developed memes, brochures and videos.

## CURRICULUM TEACHES HIGH SCHOOL STUDENTS ABOUT OCEAN ACIDIFICATION



OSG and a master's student created a 140-page, [five-lesson curriculum for high schoolers](#) about ocean acidification and actions people can take to reduce it. They created it after interviewing researchers, reviewing 90 teaching resources and testing drafts with teachers and over 300 students. The authors have presented the curriculum to over 200 educators, and it has been downloaded more than 200 times.

## PH.D. STUDENT TEACHES KIDS ABOUT SALT MARSH SEDIMENT



An OSG-funded [doctoral student](#) used [sediment cores](#) from salt marshes in Oregon to teach students about the importance of these coastal wetlands. The cores reveal a historical timeline of seismic and tsunami activity in their layers of sand, silt and clay. The graduate student used the cores, which were collected in long PVC tubes, at a family science day hosted by the Hatfield Marine Science Center in Newport and at da Vinci Days, an art and science festival in Corvallis. She also created a [lesson plan](#) and used it with about 160 high school and grade school students during [an event at Oregon State University](#). The lesson was published by the Science Education Resource Center at Carleton College. Altogether, the student reached more than 300 people.

## OSG FACILITATES DISCUSSIONS ON ARMORING SHORELINES



OSG facilitated meetings of a group tasked with addressing issues related to shoreline armoring on land that was developed before 1977. The group included a program manager from the Oregon Department of Transportation, a director of a public utility, a county planner, a city manager, an engineering geologist, an economist and a land use attorney. The group presented its feedback to Oregon's Department of Land Conservation and Development in a 34-page [final report](#), which OSG helped structure.

## RESEARCHERS FIND MICROPLASTICS IN OREGON OYSTERS AND RAZOR CLAMS



OSG-funded researchers [tested 141 Pacific oysters and 142 razor clams](#) from the Oregon coast and found microplastics in all but one oyster and one clam. On average, they found 11 microplastic pieces per oyster and nine per clam. [The study](#) is the first to document microplastics in these two types of shellfish in Oregon. The graduate student on the project collaborated with the Oregon Coast Aquarium to create an exhibit about the environmental footprint of plastics and how people can reduce this impact.